

that of any other ; nevertheless we have in this species a close ally of *Plateni* and possibly an old form from which perhaps several of the varieties of the *haliphron* and *helena* groups have been derived by differentiation—a transitional species I have long expected would be discovered. After awhile other transitional forms will, I hope, be found, and we may then be able to understand some of the geographical development history of the whole genus.

I am much indebted to Mr. Elwes for the cession of a large and interesting series of this novelty, the types of which, with several varieties, will occupy two plates in the sixth part of my 'Icones Ornithopterorum,' with extended information.

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LI.—Note on *Apteryx Haastii*.

To the Editors of the 'Annals and Magazine of
Natural History.'

GENTLEMEN,—In the February number of your Magazine Mr. H. O. Forbes answers my notes on *Apteryx Haastii*. I deeply regret that he considers I have been guilty of an indiscretion in writing about opinions which, although openly expressed, he never published in print, and I hope he will accept my full apology.

I must, however, in justice to myself answer his objections in full. In the first place he contends that, contrary to my statement, *Apteryx Haastii* has only been recorded from the South Island, and that in single specimens in localities only where *A. australis* and *A. Oweni* are found together. In reply to this I have to state that the first four specimens of *A. Haastii* I ever received were young birds of the size of *A. australis*, and were so distinct that I had at first thought they were a new species ; but I now, since my last article, find they are not. These four birds were collected by a German botanist on Stewart's Island and were sent me by Sir Walter Buller. Then Sir Walter Buller sent me alive a young *Apteryx Haastii* without a locality ; and, lastly, he sent me fourteen or fifteen specimens, all collected on the west coast of the North Island, among which were two live birds, male and female, and a chick and rotten egg, all dug out of one hole.

In addition to these I have notice of some *A. Haastii* sent to me lately by a man named Danneford, which also came from the North Island. Moreover, Professor Reichenow exhibited before the German Ornithological Society a specimen of *A. Haastii* from the North Island.

Mr. Forbes has stated further, in support of his theory, that the cæcum of *A. Haastii*, being different in the two sexes, was rather a sign of hybridity than otherwise. Unfortunately he has read my notes quite wrongly. I said:—"Another distinctive character will be found in the cæcum, which seems to differ not only in the two sexes, but also in all the various species of the genus." By this I meant to say that a further difference lay in the distinction of the cæcum in each species, not in the sexes, for, as I have proved, the male and female cæca are distinct in each species. Professor Owen was the first to describe this strange difference in his article on the anatomy of *Apteryx australis*, in the 'Transactions of the Zoological Society.' As regards my argument upon the size of the beak of *A. Haastii*, I never mentioned the subject of length; I can only say that as to length I have several *A. Mantellii* with longer beaks; but what I said was that, "though not so long as that of *A. maximus*, it is very much stouter even than that of the recently discovered extinct species." This is a fact, as my largest female *A. Haastii* has a beak nearly if not quite twice as large in circumference at the base as any known *Apteryx*.

Finally, I must reiterate the fact that not only have I found the cæca of Apteryges differ in the two sexes, but also most of the Struthionidæ present this difference; and I have to point out that the cæcum of the Emu (*Dromæus*) is about 3 inches long, while that of the much smaller *Rhea americana* is nearly 7 feet long, and *Apteryx Mantellii* has a cæcum 9 inches long, while in *A. maximus* it is barely 4 inches long*.

WALTER ROTHSCHILD.

* If, however, it should be proved, which I for one very much doubt, that the two specimens of *A. Haastii* described by Potts are hybrids, both South-Island, North-Island, and Stewart's-Island specimens of large grey *Apteryx* will have to be described as new species; for I know they come from districts where no *A. Owenii* have ever been found, and are totally unlike anything which could be produced by crossing.